

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 4. (Canceled)

5. (Currently amended) A circuit comprising:

a positive terminal and a negative terminal;

a switch configured to couple a target circuit with a source of power;

a first detector configured to be selectively coupled to and decoupled from the source of power, the first detector operatively coupled with the switch, wherein the switch closes responsive to the first detector; and

a second detector configured to detect noise in the power, the second detector operatively coupled to the switch, wherein a conductivity of the switch varies responsive to the second detector,

wherein the first detector comprises a resistor and a capacitor configured as an RC circuit that is in electrical communication with the source of power,

wherein the switch is a transistor device having a gate terminal coupled to the RC circuit, so that the switch gradually closes as the RC circuit is charged by the source of power,

wherein the second detector comprises:

a bias voltage source; and

an operational amplifier having:

an inverting input coupled with the positive terminal and coupled with the bias voltage source;

a non-inverting input coupled with a negative terminal; and

an output coupled to the gate of the switch.

6. (Previously presented) The circuit of claim 5 wherein the second detector couples between the source of power source and the gate of the switch.

7. (Canceled)

1 8. (Currently amended) The circuit of claim ~~7~~5 wherein the output of the
2 operational amplifier couples with the first detector.

1 9. (Currently amended) The circuit of claim ~~7~~5 wherein the bias voltage
2 source coupled with the first detector.

1 10. (Original) The circuit of claim 9 wherein the bias voltage source is a
2 voltage divider.

1 11. (Currently amended) A circuit comprising:
2 a switch configured to couple a target circuit with a source of power;
3 a filter;
4 a first detector configured to be selectively coupled to and decoupled from the
5 source of power, the first detector operatively coupled with the switch, wherein the switch
6 gradually closes responsive to the first detector being coupled to the source of power; and
7 a second detector configured to sense current being supplied to the target circuit
8 and to detect when the current exceeds a threshold, wherein the switch opens responsive to the
9 second detector,
10 wherein the first detector comprises a resistor and a capacitor configured as an RC
11 circuit,
12 wherein the switch is a first transistor ~~device~~ having a gate terminal coupled to the
13 RC circuit via the filter,
14 wherein the RC circuit is in electrical communication with the source of power so
15 that the switch gradually closes as a result of charging of the RC circuit by the source of power.

1 12. (Original) The circuit of claim 11 wherein the switch closes at a slower
2 rate than it opens.

1 13. (Original) The circuit of claim 11 wherein the switch is characterized by
2 having a variable conductance, wherein the switch closes at a slow rate such that its conductance
3 is gradually increased.

1 14. (Original) The circuit of claim 11 wherein the first detector and the switch
2 are coupled to the positive terminal of the source of power.

1 15. (Original) The circuit of claim 11 wherein the first detector and the switch
2 are coupled to the negative terminal of the source of power.

1 17. (Previously presented) The circuit of claim 11 wherein the first transistor
2 is a FET transistor.

 18. (Canceled)

1 19. (Original) The circuit of claim 11 wherein the second detector comprises
2 a first op-amp operatively coupled between the first detector and the switch.

1 20. (Original) The circuit of claim 19 wherein the second detector further
2 comprises a resistor coupled between the first op-amps inputs.

1 21. (Original) The circuit of claim 19 wherein the second detector further
2 comprises a second power source coupled between one of the first op-amp inputs and the source
3 of power.

1 23. (Currently amended) A circuit comprising:
2 a switch configured to couple a target circuit with a source of power;
3 a filter;
4 a first detector configured to be selectively coupled to and decoupled from the
5 source of power, the first detector operatively coupled with the switch, wherein the switch closes
6 responsive to the first detector; and
7 a second detector configured to detect when the source of power is decoupled
8 from the target circuit, wherein the switch opens responsive to the second detector,

9 wherein the first detector comprises a resistor and a capacitor configured as an RC
10 circuit in electrical communication with the source of power,

11 wherein the switch is a transistor device having a gate terminal coupled to the RC
12 circuit via the filter, so that the switch gradually closes as a result of charging of the RC circuit
13 by the source of power.

24. and 25. (Canceled)

1 26. (Original) The circuit of claim 23 wherein the second detector comprises
2 a first op-amp operatively coupled between the first detector and the switch.

1 27. (Currently amended) A circuit comprising:
2 a switch configured to couple a target circuit with a source of power;
3 a filter;
4 a first detector configured to be selectively coupled to and decoupled from the
5 source of power, the first detector operatively coupled with the switch, wherein the switch closes
6 responsive to the first detector; and

7 a second detector configured to detect a voltage change from a non-zero voltage
8 towards a zero voltage, wherein the switch opens responsive to the second detector,

9 wherein the first detector comprises a resistor and a capacitor configured as an RC
10 circuit in electrical communication with the source of power,

11 wherein the switch is a transistor device having a gate terminal coupled to the RC
12 circuit via the filter, so that the switch gradually closes as a result of charging of the RC circuit
13 by the source of power.

28. and 29. (Canceled)

1 30. (Original) The circuit of claim 27 wherein the second detector comprises
2 a first op-amp operatively coupled between the first detector and the switch.

1 31. (Currently amended) A circuit for coupling a power source to a device
2 comprising:

3 first circuit means for detecting a connection event wherein a connection is made
4 between a device and a power source, the first circuit means configured to be selectively coupled
5 to and decoupled from the power source;

6 second circuit means, responsive to the first circuit means, for varying the amount
7 of power from the power source that is applied to the device, the second circuit means
8 comprising an RC circuit coupled so as to be charged by the power source, wherein a voltage
9 developed by the RC circuit is provided to the first circuit means, the voltage being less than the
10 voltage of the power source;

11 third circuit means for filtering electrical noise originating from the power source
12 to produce a filtered signal; and

13 fourth circuit means for producing a control signal responsive to the filtered
14 signal,

15 the second circuit means further being responsive to the control signal so that the
16 amount of power that is applied to the device ~~varies in response to~~ is protected from the electrical
17 noise.

32. - 41. (Canceled)